L24 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:175776 CAPLUS
DN 132:196122
TI Production of 1,3-propanediol by the two-stage catalytic hydrogenation of 3-hydroxypropanal
IN Haas, Thomas; Jaeger, Bernd; Sauer, Joerg; Hofen, Willi; Vanheertum, Rudolf
PA E. I. Du Pont de Nemours & Co., USA
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000014041	A1	20000316	WO 1999-US19980	19990901
	W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2339503	AA	20000316	CA 1999-2339503	19990901
	AU 9957981	A1	20000327	AU 1999-57981	19990901
	EP 1109767	A1	20010627	EP 1999-945373	19990901
	EP 1109767	B1	20030326		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9913475	A	20010814	BR 1999-13475	19990901
	TR 200100678	T2	20010921	TR 2001-200100678	19990901
	JP 2003510246	T2	20030318	JP 2000-568801	19990901
	AT 235449	E	20030415	AT 1999-945373	19990901
	ES 2194505	T3	20031116	ES 1999-945373	19990901
	US 6297408	B1	20011002	US 2001-786501	20010302
PRAI	US 1998-99235P	P	19980904		
	WO 1999-US19980	W	19990901		

AB A two-stage process for producing 1,3-propanediol comprises first hydrogenating 3-hydroxypropanal at 30-80° in the presence of an oxide-supported metal hydrogenation catalyst and the resulting reaction solution (containing the 1,3-propanediol acetal of 3-hydroxypropanal, which acetal boils at a similar temperature to 1,3-propanediol) is then hydrogenated at 80-180° to a 3-hydroxypropanal conversion of substantially 100% in the presence of an activated carbon-supported metal hydrogenation catalyst.
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 2 USPATFULL on STN
AN 2001:168288 USPATFULL
TI Two-stage process for the production of 1,3-propanediol by catalytic hydrogenation of 3-hydroxypropanal
IN Haas, Thomas, Frankfurt, Germany, Federal Republic of
Jaeger, Bernd, Darmstadt, Germany, Federal Republic of
Sauer, Joerg, Rodenbach, Germany, Federal Republic of
Hofen, Willi, Rodenbach, Germany, Federal Republic of
Vanheertum, Rudolf, Kahl, Germany, Federal Republic of
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 6297408 B1 20011002
WO 2000014041 20000316
AI US 2001-786501 20010302 (9)
WO 1999-US19980 19990901

20010302 PCT 371 date
20010302 PCT 102(e) date
PRAI US 1998-99235P 19980904 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Barts, Samuel; Assistant Examiner: Price, Elvis O.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 666

AB A two-stage process for producing 1,3-propanediol by first hydrogenating at a temperature of 30° C. to 80° C. in the presence of an oxide-supported metal hydrogenation catalyst. Second, the resulting reaction solution is hydrogenated at a temperature of 80° C. to 180° C. to a 3-hydroxypropanal conversion of substantially 100% in the presence of an activated carbon-supported metal hydrogenation catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L25 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:372937 CAPLUS
DN 140:377038
TI Solid-acid-catalyzed reactive stripping of impurities formed during the production of 1,3-propanediol
IN Powell, Joseph Broun; Weider, Paul Richard; Komplin, Glenn Charles
PA USA
SO U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004087819	A1	20040506	US 2003-676796	20031001
WO 2004041759	A1	20040521	WO 2003-US34581	20031030

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD

RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2002-423097P	P	20021101	
US 2002-423140P	P	20021101	
US 2003-676796	A	20031001	

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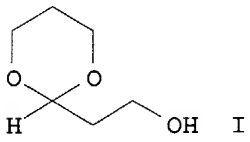

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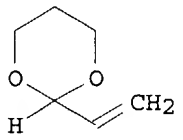

II

AB A process for producing 1,3-propanediol comprises: (a) forming an aqueous solution of 3-hydroxypropanal; (b) hydrogenating the 3-hydroxypropanal to form a first crude 1,3-propanediol mixture containing 1,3-propanediol, **water**, and a cyclic acetal (I); (c) distilling the first crude 1,3-propanediol mixture to remove **water** and low-boiling impurities and form a second crude 1,3-propanediol mixture; (d) contacting the second crude 1,3-propanediol mixture with a solid acid purifier (e.g., Amberlyst A15) at 50-250° to convert the I to more volatile cyclic acetals; and (e) separating the more volatile cyclic acetals from the 1,3-propanediol by distillation or gas stripping.

L26 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1997:509896 CAPLUS
DN 127:94939
TI Intrinsic Kinetics of 3-Hydroxypropanal Hydrogenation over Ni/SiO2/Al2O3 Catalyst
AU Zhu, X. D.; Valerius, G.; Hofmann, H.; Haas, Th.; Arntz, D.
CS Institute of Technical Chemistry, Friedrich-Alexander University, Erlangen, 91058, Germany
SO Industrial & Engineering Chemistry Research (1997), 36(8), 2897-2902
CODEN: IECRED; ISSN: 0888-5885
PB American Chemical Society
DT Journal
LA English
AB The hydrogenation of 3-hydroxypropanal (HPA) to 1,3-propanediol (PD) over Ni/SiO2/Al2O3 catalyst powder was carried out at 318-353 K and 2.60-5.15 MPa in a batchwise-operated stirred autoclave. A kinetic model which can well describe the reactions of this process was developed. The model parameters were estimated by the maximum likelihood function of the concentration of HPA and PD according to concentration-time profiles measured at different temps. and pressures. To obtain high selectivity of PD the reaction temperature should be lower than 333 K.

L26 ANSWER 2 OF 2 USPATFULL on STN
AN 2003:332509 USPATFULL
TI Method for communicating local information between component objects and hosts
IN Bhansali, Anil, Newcastle, WA, United States
Wentz, Brian D., Seattle, WA, United States
PA Microsoft Corporation, Redmond, WA, United States (U.S. corporation)
PI US 6667736 B1 20031223
AI US 1998-99235 19980617 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Follansbee, John; Assistant Examiner: Nguyen, V. H.
LREP Merchant & Gould, LLC
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 940
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Communicating local information, such as a user interface language, between a host application and a software component. In response to a user's request, the host application invokes the software component to perform a task addressing the user's request, such as generating user interface message. In order to determine the appropriate language for the user interface message, the software component queries the host application to identify the user and to return the user interface language requirements for the user. In the case where the host application is an end-user application, the host returns the current user interface language as the user interface language requirement. When the host application is a server application using a multi-threaded environment, the host application returns the user interface language of the currently running thread at the time of the query. If the host application is not an end-user application or does not use a multi-threaded architecture, the software component provides contextual information in a parameter of the query to aid the host application in determining the user interface language requirements. In the event that the software component does not receive user interface requirements from the host application, the software component follows a priority scheme to determine the user interface language.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L31 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2004:372936 CAPLUS
DN 140:377037
TI Method for the removal of a **cyclic acetal** formed during the production of 1,3-propanediol from the reaction of oxirane with synthesis gas
IN Brewer, Stephen Edward; Diaz, Zaida; Powell, Joseph Broun; Weider, Paul Richard; Komplin, Glenn Charles; Blackbourn, Robert Lawrence
PA USA
SO U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004087818	A1	20040506	US 2003-676690	20031001
PRAI US 2002-423140P	P	20021101		

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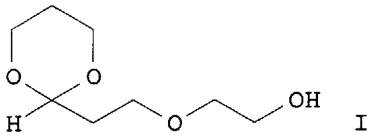

I

AB An improvement upon the process for the production of 1,3-propanediol (PDO) is described where an aqueous solution of 3-hydroxypropanal (HPA) is formed, and the HPA is subjected to hydrogenation to produce a crude PDO mixture comprising PDO, water, an acetal (I), and high- and low-volatility materials, where the crude PDO mixture is dried to produce a first overhead stream comprising water and some high volatility materials and a dried crude PDO mixture as a first distillate bottoms stream comprising PDO, I, and low-volatility materials, and where the dried crude PDO mixture is distilled to produce a second overhead stream comprising some high-volatility materials, a middle stream comprising PDO and I, and a second distillate bottoms stream comprising PDO and low-volatility materials. The improvement in this process comprises treating the crude PDO mixture and/or the dried crude PDO mixture and/or the PDO product with an acidic zeolite, an acidic cation exchange resin, or a soluble acid to convert the I into more volatile materials which can be easily separated from PDO by distn; a process flow diagram is presented.

L31 ANSWER 2 OF 2 USPATFULL on STN DUPLICATE 2
AN 2004:114972 USPATFULL
TI Solid acid catalyzed reactive stripping of impurities formed during the production of 1, 3-propanediol
IN Powell, Joseph Broun, Houston, TX, UNITED STATES
Weider, Paul Richard, Houston, TX, UNITED STATES
Komplin, Glenn Charles, Houston, TX, UNITED STATES
PI US 2004087819 A1 20040506
AI US 2003-676796 A1 20031001 (10)
PRAI US 2002-423097P 20021101 (60)
DT Utility
FS APPLICATION
LREP Donald F. Haas, Shell Oil Company, Legal-Intellectual Property, P. O. Box 2463, Houston, TX, 77252-2463
CLMN Number of Claims: 12
ECL Exemplary Claim: 1

DRWN No Drawings
LN.CNT 471
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A process for producing 1,3-propanediol comprising the steps of: a) forming an aqueous solution of 3-hydroxypropanal, b) hydrogenating the 3-hydroxypropanal to form a first crude 1,3-propanediol mixture comprising 1,3-propanediol, water, and MW 132 **cyclic acetal**, c) distilling the first crude 1,3-propanediol mixture to remove water and low boiling impurities and form a second crude 1,3-propanediol mixture, d) contacting the second crude 1,3-propanediol mixture with a solid acid purifier at a temperature of from about 50 to about 250° C. to convert the MW 132 **cyclic acetal** to more volatile **cyclic acetals**, and e) separating the more volatile **cyclic acetals** from the 1,3-propanediol by distillation or gas stripping.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L42 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:372936 CAPLUS
DN 140:377037
TI Method for the removal of a **cyclic acetal** formed during the production of 1,3-propanediol from the reaction of oxirane with synthesis gas
IN Brewer, Stephen Edward; Diaz, Zaida; Powell, Joseph Broun; Weider, Paul Richard; Komplin, Glenn Charles; Blackbourn, Robert Lawrence
PA USA
SO U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004087818	A1	20040506	US 2003-676690	20031001
PRAI US 2002-423140P	P	20021101		

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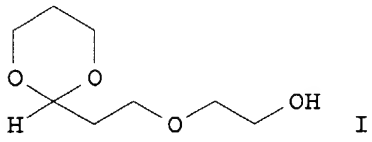

I

AB An improvement upon the process for the production of 1,3-propanediol (PDO) is described where an aqueous solution of 3-hydroxypropanal (HPA) is formed, and the HPA is subjected to hydrogenation to produce a crude PDO mixture comprising PDO, water, an acetal (I), and high- and low-volatility materials, where the crude PDO mixture is dried to produce a first overhead stream comprising water and some high volatility materials and a dried crude PDO mixture as a first distillate bottoms stream comprising PDO, I, and low-volatility materials, and where the dried crude PDO mixture is distilled to produce a second overhead stream comprising some high-volatility materials, a middle stream comprising PDO and I, and a second distillate bottoms stream comprising PDO and low-volatility materials. The improvement in this process comprises treating the crude PDO mixture and/or the dried crude PDO mixture and/or the PDO product with an **acidic zeolite**, an acidic cation exchange resin, or a soluble acid to convert the I into more volatile materials which can be easily separated from PDO by distn; a process flow diagram is presented.

L42 ANSWER 2 OF 3 USPATFULL on STN
AN 2004:114972 USPATFULL
TI Solid acid catalyzed reactive stripping of impurities formed during the production of 1, 3-propanediol
IN Powell, Joseph Broun, Houston, TX, UNITED STATES
Weider, Paul Richard, Houston, TX, UNITED STATES
Komplin, Glenn Charles, Houston, TX, UNITED STATES
PI US 2004087819 A1 20040506
AI US 2003-676796 A1 20031001 (10)
PRAI US 2002-423097P 20021101 (60)
DT Utility
FS APPLICATION
LREP Donald F. Haas, Shell Oil Company, Legal-Intellectual Property, P. O. Box 2463, Houston, TX, 77252-2463
CLMN Number of Claims: 12
ECL Exemplary Claim: 1

DRWN No Drawings
LN.CNT 471
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for producing 1,3-propanediol comprising the steps of: a) forming an aqueous solution of 3-hydroxypropanal, b) hydrogenating the 3-hydroxypropanal to form a first crude 1,3-propanediol mixture comprising 1,3-propanediol, water, and MW 132 **cyclic acetal**, c) distilling the first crude 1,3-propanediol mixture to remove water and low boiling impurities and form a second crude 1,3-propanediol mixture, d) contacting the second crude 1,3-propanediol mixture with a solid acid purifier at a temperature of from about 50 to about 250° C. to convert the MW 132 **cyclic acetal** to more volatile **cyclic acetals**, and e) separating the more volatile **cyclic acetals** from the 1,3-propanediol by distillation or gas stripping.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L42 ANSWER 3 OF 3 CA COPYRIGHT 2004 ACS on STN
AN 140:377037 CA
TI Method for the removal of a **cyclic acetal** formed during the production of 1,3-propanediol from the reaction of oxirane with synthesis gas
IN Brewer, Stephen Edward; Diaz, Zaida; Powell, Joseph Broun; Weider, Paul Richard; Komplin, Glenn Charles; Blackbourn, Robert Lawrence
PA USA
SO U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004087818	A1	20040506	US 2003-676690	20031001
PRAI US 2002-423140P	P	20021101		

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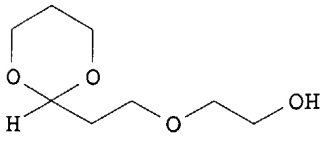

I

AB An improvement upon the process for the production of 1,3-propanediol (PDO) is described where an aqueous solution of 3-hydroxypropanal (HPA) is formed, and the HPA is subjected to hydrogenation to produce a crude PDO mixture comprising PDO, water, an acetal (I), and high- and low-volatility materials, where the crude PDO mixture is dried to produce a first overhead stream comprising water and some high volatility materials and a dried crude PDO mixture as a first distillate bottoms stream comprising PDO, I, and low-volatility materials, and where the dried crude PDO mixture is distilled to produce a second overhead stream comprising some high-volatility materials, a middle stream comprising PDO and I, and a second distillate bottoms stream comprising PDO and low-volatility materials. The improvement in this process comprises treating the crude PDO mixture and/or the dried crude PDO mixture and/or the PDO product with an **acidic zeolite**, an acidic cation exchange resin, or a soluble acid to convert the I into more volatile materials which can be easily separated from PDO by distn; a process flow diagram is presented.

L44 ANSWER 1 OF 3 USPATFULL on STN
AN 2001:22408 USPATFULL
TI Processes for the manufacture of acrolein derivatives
IN Etzkorn, William George, Hurricane, WV, United States
Galley, Richard A., Belle Mead, NJ, United States
Snead, Thomas E., South Charleston, WV, United States
Brockwell, Jonathan Lester, South Charleston, WV, United States
Young, Mark Anderson, South Charleston, WV, United States
Maher, John Michael, Charleston, WV, United States
Warren, Barbara Knight, Charleston, WV, United States
PA Union Carbide Chemicals & Plastics Technology Corporation, Danbury, CT, United States (U.S. corporation)
PI US 6187963 B1 20010213
AI US 1998-169798 19981009 (9)
RLI Continuation-in-part of Ser. No. WO 1997-US5100, filed on 27 Mar 1997
PRAI EP 1998-97917687 19980911
DT Utility
FS Granted
EXNAM Primary Examiner: Padmanabhan, Sreeni
LREP Volles, W. K.
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 964
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Processes are disclosed for the conversion of propylene to an acrolein derivative by converting propylene to acrolein and converting acrolein to the acrolein derivative. The processes utilize oxygen and recycle propane to the acrolein reactor. Process feeds can comprise, propane, propylene or mixtures thereof. The presence of propane in the propylene-to-acrolein reaction can enhance the efficiency of the processes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L44 ANSWER 2 OF 3 USPATFULL on STN
AN 2000:174889 USPATFULL
TI Processes for the manufacture of acrolein
IN Etzkorn, William George, Hurricane, WV, United States
Brockwell, Jonathan Lester, South Charleston, WV, United States
Young, Mark Anderson, South Charleston, WV, United States
Maher, John Michael, Charleston, WV, United States
Warren, Barbara Knight, Charleston, WV, United States
PA Union Carbide Chemicals & Plastics Technology Corporation, Danbury, CT, United States (U.S. corporation)
PI US 6166263 20001226
AI US 1998-169335 19981009 (9)
RLI Continuation-in-part of Ser. No. WO 1997-US5100, filed on 27 Mar 1997
DT Utility
FS Granted
EXNAM Primary Examiner: Padmanabhan, Sreeni
LREP Volles, W. K.
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 860
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Processes are disclosed for the conversion of propylene to acrolein in the presence of propane. The processes utilize oxygen and recycle propane to the acrolein reactor. Process feeds can comprise, propane, propylene or mixtures thereof. The presence of propane in the propylene-to-acrolein reaction can enhance the efficiency of the processes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L44 ANSWER 3 OF 3 USPATFULL on STN
AN 95:54518 USPATFULL
TI Process for the simultaneous production of 1,2- and 1,3-propanediol
IN Haas, Thomas, Frankfurt, Germany, Federal Republic of
Neher, Armin, Brachttal, Germany, Federal Republic of
Arntz, Dietrich, Oberursel, Germany, Federal Republic of
Klenk, Herbert, Hanau, Germany, Federal Republic of
Girke, Walter, Hanau, Germany, Federal Republic of
PA Degussa Aktiengesellschaft, Frankfurt, Germany, Federal Republic of (non-U.S. corporation)
PI US 5426249 19950620
AI US 1993-151389 19931112 (8)
PRAI DE 1992-42384923 19921114
DT Utility
FS Granted
EXNAM Primary Examiner: Richter, Johann; Assistant Examiner: Cook, Rebecca
LREP Beveridge, DeGrandi, Weilacher & Young
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 383
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process is described for the simultaneous production of 1,2- and 1,3-propanediol from glycerol. The process involves the reaction stages (a) dehydration of glycerol by feeding a gaseous glycerol-water mixture with 10 to 40 wt % glycerol at 250° to 340° C. over a solid catalyst with an H.sub.0 value (Hammett acidity function) of less than 2, preferably between -3 and -8.2, (b) hydration of the acrolein contained in the reaction mixture of stage (a), and (c) catalytic hydrogenation of the reaction mixture, containing 3-hydroxypropionaldehyde and hydroxyacetone, of stage (b). Two valuable products, namely 1,2- and 1,3-propanediol, can be obtained simultaneously and in high total yield from glycerol in a simple process.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L2             1 S 3-HYDROXYPROPANAL/CN
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L4             0 S 2-ETHANOL-13-DIOXANE/CN
L5             0 S 2-ETHANOL-1,3-DIOXANE/CN
L6             0 S MW 132 CYCLIC ACETAL/CN
L7             0 S 2-ETHYLENE-1,3-DIOXANE/CN
L8             0 S 2-ETHYLENE-1,3-DIOXANE ACETAL/CN
L9               STRUCTURE UPLOADED
L10            0 S L9
L11            1 S L9 FUL
L12            0 S 1,3-DIOXANE-2-ETHYLENE/CN
L13            0 S 1,3-DIOXANE-2-ETHENE/CN
L14              STRUCTURE UPLOADED
L15            0 S L14
L16           10 S L14 FUL
L17            1 S 2-VINYL-1,3-DIOXANE/CN
L18            0 S L1 AND L2
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FILE 'CAPLUS, USPATFULL, CA, CAOLD' ENTERED AT 11:30:58 ON 08 AUG 2004

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L22            3 S L21 AND WATER
L23            0 S L22 AND EXCHANGE RESIN
L24            2 S L22 AND ZEOLITE
L25            1 S L22 NOT L24
L26            2 S L21 NOT L22
L27            1 S L21 AND L17
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L29            5 S L19 AND CYCLIC ACETAL
L30            4 S L29 NOT L21
L31            2 DUP REM L30 (2 DUPLICATES REMOVED)
L32           46 S L19 AND EXCHANGE RESIN
L33           32 S L32 AND DISTILL?
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L35           31 S L34 NOT L21
L36           29 S L34 NOT L29
L37           29 S L36 AND WATER
L38            2 S L37 AND AMBER?
L39            1 S L37 AND ACETAL
L40           54 S L19 AND ZEOLITE
L41            6 S L40 AND ACIDIC ZEOLITE
L42            3 S L41 AND CYCLIC ACETAL
L43            3 S L41 NOT L42
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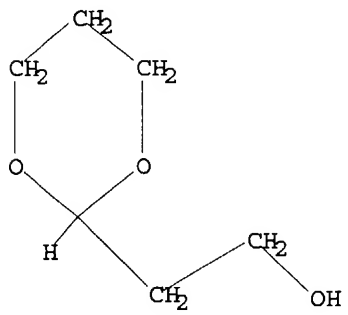
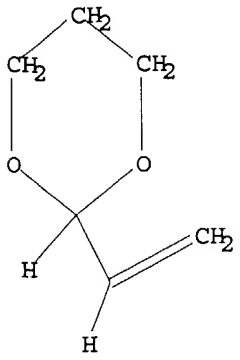


Structure attributes must be viewed using STN Express query preparation.

=> d l14
L14 HAS NO ANSWERS
L14 STR



Structure attributes must be viewed using STN Express query preparation.